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### III. REMARKS

#### *Claim Rejections - 35 USC § 101*

Claims 10 and 11 stand rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process under 35 U.S.C. 101.

These claims have been amended to recite a measuring step thus obviating this ground for rejection.

#### *Claim Rejections - 35 USC § 112*

Claims 1, 2, and 4-11 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention in that claims 1, 2, and 4-9 are rendered vague and indefinite because they fail to adequately define a complete method with respect to the recited preamble language - e.g., claims 1 and 2 vaguely recite a one-step method which would not appear to provide the necessary method steps for accomplishing the goal set forth in each of the preamble recitations and claims 10 and 11 provide for the use of, but do not set forth any steps involved in the method/process.

These claims have been amended to recite a measuring step thus obviating this ground for rejection.

#### *Claim Rejections - 35 USC § 102*

Claims 1-5 and 8-11 stand rejected under 35 U.S.C. 102(b) as being anticipated by Duncan et al (Letters in Applied Microbiology 2000).

The examiner states that Duncan et al teach a method of determining whether toxic compounds have perturbed a wastewater treatment process (i.e., an environmental condition) by measuring the amount of a stress protein (i.e., a biochemical composition)

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expressed by the diverse population of microorganisms in the wastewater treatment process; that changes in the environmental condition of the treatment process can be monitored by measuring the changes in the amount of stress protein expressed by these microorganisms, and that protein induction patterns, or protein fingerprints, in these activated sludge cultures can be determined and used in monitoring the treatment process.

The examiner states that Duncan et al teach that a diverse population of microorganisms exist in these activated sludge cultures. In addition, Duncan et al measured the amount of the general shock protein GroEL that was induced in the cells of these bacteria in response to the contamination of the wastewater treatment process (i.e., a bioconversion process in an aqueous environment) under different environmental conditions. The examiner further states that Duncan et al further teach that relative levels of stress proteins in conjunction with their induction patterns will lead to the development of a useful monitoring technology based upon microbial stress response and concludes that the reference anticipates the instant claims above.

Applicant respectfully traverses this ground for rejection.

Duncan et al. describe the possibility of determining 'stress' of *E. Coli* by measuring the present of a heat shock protein (GroEL). Although it is questionable whether this could be considered as an environmental condition, applicant submits the novelty objection has been overcome by limiting the claims to the detection of a plurality of (different) biomolecules. Basis for this amendment can be found in the text of the published international application (page 7, lines 18-20).

***Claim Rejections - 35 USC § 103***

Claims 1-11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan et al in view of Larossa et al (US 6,607,885).

Applicant respectfully submits that the amendments to the claims, as discussed above, also makes the invention unobvious over Duncan et al., since no functional

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relationship needs to exist or to be known between the environmental condition and the plurality of biomolecules that is measured. Duncan et al. at best teach that it is possible to say something about the status of a micro-organism (and possibly on the environmental condition that has caused said status) by detecting a specific biomolecule.

In contrast, the present invention teaches that it is not necessary to identify a specific biomolecule, but that – surprisingly – a large number of environmental conditions can be deduced from changes in the biochemical composition (i.e. changes in the presence and/or amounts of a plurality of biomolecules) without it being necessary that the induction routes that lead to such a change are known (page 3, lines 12-17 of the description).

Larossa et. al.) does not cure this failure of disclosure in Duncan et al. Thus, the presently amended claims are considered to be unobvious over Duncan et al., alone or in combination with US 6,607,885 (Larossa et. al.).

### **Conclusion**

Applicant believes these remarks and the claim amendments are sufficient to obviate the grounds for rejection presented in the outstanding office action and respectfully requests allowance of the pending claims. Please charge any insufficiency of fees, or credit any excess, to Deposit Account No. 14-1263.

Respectfully submitted,

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